

UBIQUITOUS SERVICE PLATFORM AND ITS EVOLUTION TOWARDS IOT INFRASTRUCTURE




Masayoshi Ohashi

ATR Adaptive Communications Research labs.

From R&D Perspective

REQUIREMENT OF A SERVICE PLATFORM

WHAT ARE KEY FEATURES OF A SERVICE PLATFORM

- Accommodate for **real world services**: it should be able to deal with sensors and actuators
 - Support a large number of objects
 - Support real time data
- **Close to users**  expectation to **HTML5**
 - Rich expression
 - Target service should be promptly provided to users
 - Users context should be adequately indicated to a service provider
- Support of **Profile and data portability**
 **Cloud type solution**
- Support of **horizontalization**  **Platform approach**

SERVICE PLATFORM SHOULD SUPPORT . .

- ◉ **Flexibility:** Flexible creation and provision of services based on user demand.
- ◉ **Multi-domain:** Service provision over multi-domain network, such as sensor network, actuator network, home network, real-world service
- ◉ **Multi-Devices:** Support various kinds of devices. Devices are typically mobile phones, pads or information appliances (e.g., photo frame) but they also include sensors, actuators, network robots, etc.

FUNCTIONS OF A SERVICE PLATFORM FOR A REAL WORLD

- ◉ **Transparent access** to devices/sensors:
equally accessible regardless of their
locations and access environment
- ◉ **Identification of a large number of real world
objects:** e.g., by RFID
Service scenario composition and execution
with real world objects
- ◉ Logging and analysis of sensor data and
record of user activities

SUPPORT OF NEW EMERGING AREA





CROSS UBIQUITOUS PLATFORM

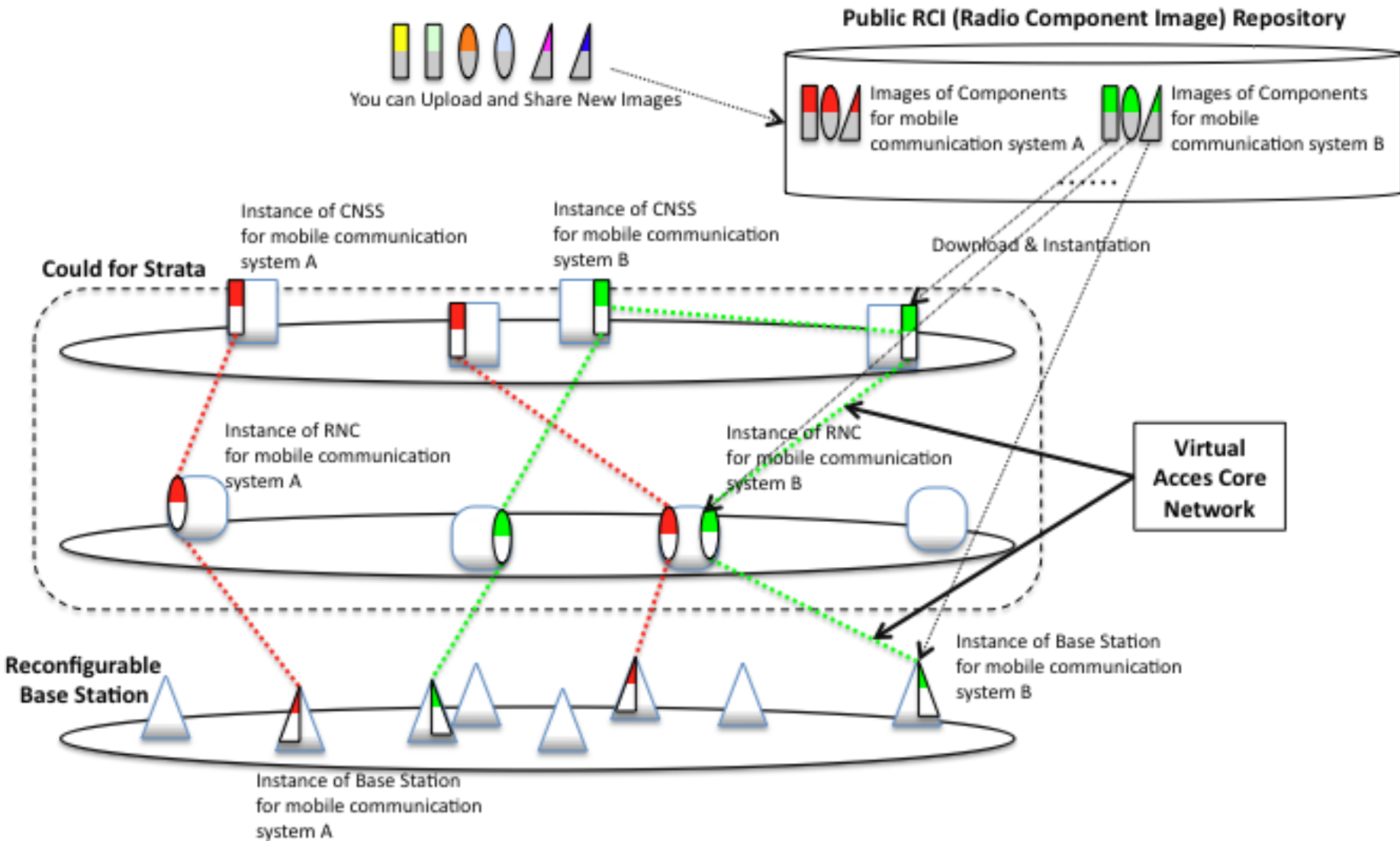
A SERVICE PLATFORM R&D PROJECT “CUBIQ”

Note: This part is dropped because the content is duplicated with that of Dr. Takemoto (First speaker). Please refer his material.

TRANSFIGURABLE WIRELESS ACCESS

- For IoT platform, wireless access is an important part and should support **flexibility** and **scalability**.
- Cloud infrastructure can provide scalable computing resource according to service demands.
- Such computing resource may be utilized as a communication resource for flexible and scalable wireless access. We call it **transfigurabile wireless access**
- **Config: Reconfigurable RAN on cloud + software radio**
- This scenario as one of the possible evolution of wireless system towards IoT

OVERVIEW



COLLABORATION OF EU- JAPAN TOWARDS IOT

- **Through the discussions with SENSEI, CUBIQ project members found many similarities in vision and architecture.**
- **Since IoT shall be global and common, it is desirable to continue discussions from the early stage and try to reach a common view on IoT (e.g., vision, target services, architecture, design guidelines, etc).**
- **We believe that collaboration between EU-Japan is essential for successful future standardization of IoT.**

THANK YOU

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